

The Educational Weekly.

The Educational Weekly.

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CHICAGO, THURSDAY, AUGUST 22, 1878.

Editorial.

TAKE DOWN YOUR DICTIONARY.

THE discussion in England upon the Berlin Treaty afforded two notable instances of scholarly men seeking to avoid responsibility by the adroit use of words.

When Lord Derby, in the House of Lords, declared that he quitted the Queen's Cabinet because he dissented from the decision to seize a naval station in the Eastern Mediterranean, consisting of Cyprus and a point on the main land, by a secret expedition from India without the consent of the Sultan, Lord Salisbury said he believed Derby's memory was bad, and finally, with emphasis, declared his statement "untrue." Whereupon there was a great uproar among the members, many rising to their feet. Upon this the marquis of Salisbury begged the privilege of withdrawing the offensive language, and substituting the word "unauthentic" in place of "untrue;" and the sensitive nobility seemed satisfied so far as Salisbury's effort to amend his language was concerned. It is not clear how the substitution of the word *unauthentic* for *untrue* could help the matter; but it did in the estimation of the scholarly Lords, and of course they know.

In Earl Brownfield's speech, at the Carlton Banquet given in his honor July 27, is a specimen of as tall language as can be found in any sophomore's oration. It is remarkable as coming from an acknowledged master of English speech. Indeed such a sentence could have been framed only by a master, and with labor. The Earl spoke of Mr. Gladstone "as a *sophistical rhe-*

torician, inebriated with the exuberance of his own verbosity and egotistical imagination." Did the noble Earl mean to declare that Mr. Gladstone is a high-toned liar led astray by his own vanity? That would have been condemned at once as language entirely unbecoming to the noble speaker.

After all, are not Mr. Disraeli's words a fine illustration of the value of the Greek and Latin element of our language? What rough people we would be if we had no artifice by which to avoid blunt speech! What a row would have been raised if Earl Beaconsfield had been obliged to say just what he meant in plain Anglo Saxon terms! But would he not have been more honest, and would we not all be more honest, if there were nothing for us to use but blunt speech? But this leads to a profound question—the influence of language upon character, and the influence of character upon language. Plain speech, if not blunt speech, is a jewel. Let us have more of it!

As a jest the remark is admirable, although it was made in earnest. Everybody laughs because everybody knows that the noble Earl, even with a command of language superior to his present remarkable faculty, could not have more perfectly described himself than by the words he has applied to his great opponent; and that he could not have described a character more exactly the opposite of Gladstone, who is universally admitted as a genuine, hearty, outspoken Englishman.

IS IT A CLIMAX OR AN ANTI-CLIMAX?

THE WEEKLY takes a great deal of interest in all the criticisms upon our public schools which come to its notice. It has clipped out those of highest authority for future use and profit. While the editorial soul was wrapped in meditation upon this matter of current criticisms upon education, it so happened that three of these treasured clippings were laid side by side and read in connection. The effect was so novel that the WEEKLY concluded to give its readers the opportunity of looking at this subject—defects in education—with the aid of the combined light of these luminous extracts. The first is from our eminent contemporary the *Chicago Evening Journal*.

A NEW PROFESSORSHIP CALLED FOR.

Not one newspaper subscriber in twenty-five, perhaps not one in fifty, can read the whole of his newspaper understandingly. Who doubts? Let him turn to the financial column, read and *explain* the following paragraphs: "The clearings of the associated banks were \$2,700,000; balance, \$285,000;" or this, "The Assistant Treasurer paid out \$1,200,000 in coin interest, and \$4,000,000 in redemption of called bonds;" or this, "Jersey Central consols and convertibles, 'assented,' were up to 73½ and 70 respectively." Next, turn to the market reports, read and explain: "Pork—Receipts fair, and, under a good inquiry on packing and shipping accounts, the market ruled firm and 5 cents higher for light and heavy grades;" or this, "Lumber—Values were steady at \$8@8.25 for piece-stuff; \$8.75@13 for strips and boards;" or this telegram from Baltimore, "Wheat—Western, spot, steady; futures shade higher." Turn to marine news, read and *translate*: "Str. Assyria (Br.), Knox, Leghorn, May 13, Naples, June 2; Malaga, 17th, to Henderson Bros." Point to real estate transfers and ask readers to interpret the following: "The und. ⅓ part. frac. sec. 10, 39, 14, June 12 (W. C. Strong to A. Cook et al.), \$10,000."

More examples are unnecessary. Submit the foregoing conundrums, taken letter for letter and point for point, from newspapers now in hand, and if one teacher out of every ten in a mixed body of teachers can explain the abbreviations and quotations clearly and correctly, the writer will "go to the foot of the class" without a murmur, or submit to any other penalty that a jury of brother pedagogues may pronounce.

The claim is made that those 'conundrums and all business intelligence and forms, even the most technical, should be regularly included in the course of every high school and normal school.

The next is from the *Scientific American*.

INDUSTRIAL EDUCATION.

There is an effort to establish compulsory education; but what is the child to be taught? As if in league with the false theories of the rights of labor, these efforts take the apprentices from the shops, force them away from where they would learn something, and confine them inside a school-house to learn—what? Certainly nothing of the materials, or tools, or pursuits by which they are to obtain their livelihood. The child knows nothing of when or by whom the compass was discovered, the printing press, the use of powder, electricity, of steam, or of any one of the thousand mechanical operations now controlling every department of life. Does any school-boy know how many kingdoms there are in the natural world, or whether an animal, a vegetable, and a mineral all belong to the same or to different ones? Will he know that from instinct the young of animals seeks its food and expands its lungs, as by the same instinct the root of a seed sucks up its nourishment from the soil and sends its leaves up to breathe the air? Will he know anything of the nature or requirements of the soils or the plants that grow in them? Will this compulsory education teach the boy anything of the iron furnace, the foundry or rolling mill, or the uses or handling of any of their products? Will it teach him anything of woods and their value, or for what and how they are useful to man?

Will this knowledge, for which the powers of the state are to be required to force him to know it—will it teach him anything of the nature or uses of metals, of metal working, or the business depending upon them? Will it teach him anything of gold or silver, copper or brass? Anything of pottery, of bone, ivory, celluloid, etc.? Will he learn anything of hides, leather, or the production of these necessary articles? Will he know whether the word *textile* applies to anything but a spider's web or the wing of a butterfly? Whether the United States make, import, or grow cotton, wool, silk, flax, and hemp?

Will he know anything of commerce, railroads, telegraphs, printing, and the great number of clerk labors in the larger towns? Will he have learned a single thing which will assist him in his work of life? Will not every boy thus taken out of the shop and placed at the compulsory schooling find after he has mastered all it has to give him that he yet knows nothing; that he must then commence where he was and serve his apprenticeship; that instead of compulsory education his past years have been wasted in obtaining but a compulsory ignorance?

And then comes the usually steady-going *Christian Union*, careening after this style:

That we want common schools which will afford a better preparation for agricultural, mechanical, and commercial pursuits is very certain.

After some forcible illustrations of the disastrous extent to which human muscle has been rendered useless by the invention of machinery, it asks:

What is to become of them? (The unemployed mechanics.) They cannot go down; for all employments below are over-full. They cannot go up; for they do not know how. The consequence is that our cities swarm with reluctant idlers, and our country roads with tramps. And all the while every householder experiences the marvelous difficulty of getting a mason that knows how to slack lime, or lay a plumb wall, or a plumber who can make a tight joint, or a carpenter who can estimate properly the relations of timbers to the anticipated strain, or gardeners that know anything about seeds and soils, or coachmen that know the nature and needs of a horse. By our improved machinery we are throwing men out of their old employments by the score and the hundred. If we do not, by a broader and better common school system, open the way for their children to a higher and better employment, one in which the brain shall guide the muscle, we may expect to have in another generation a poverty-stricken peasantry on American soil as desperate as that of China, and not as ready to starve submissively.

The conditions of civilization have entirely changed since our common-school system was founded; the system does not, indeed, remain unchanged; but it has changed too tardily and too slightly. Meanwhile our district school-boards have a very plain duty laid upon them by the public want, already beginning to express itself in a public demand. They need not wait for additional legislation; none is needed. They may at once furnish their respective

schools with the means to make them better educators of the miners, the manufacturers, and the farmers of the next generation.

These sentiments are not uttered by mere correspondents; but by the editors of influential papers. In this hour of general dissatisfaction, of fertility in expedients and of untried theories, such opinions captivate a large part of the community. But are these sentiments sound? Are they the voice of wisdom?

SOME CRITICISMS ON PUBLIC-SCHOOLS DISPOSED OF.

A. P. MARBLE, Superintendent of Instruction, Worcester, Mass.

EDUCATION as a mere preparation for money-getting, it must be admitted, is not altogether a success. If ability to accumulate property is the faculty chiefly to be cultivated, and if success in life is measured by the bank account alone, then the training of the schools should be adapted to this end. The conditions of success in this one direction may be discovered and made known. Industry, constant application to business, saving little by little and every day, patience, perseverance, and unyielding determination, abstinence from every expenditure for mere ease, pleasure, or luxury, and from all gratification of taste and benevolence, and extreme caution in incurring obligations to other people and to the family, which must be fulfilled—this method has in the course of years led on many a man to fortune; and any young man may follow in this course if he will. Men of large property, who are presumably prosperous and happy, are often quite unlearned. In a neighboring city, one in high official position, whose industry and skill have contributed to the activities of business and accumulated for himself a competency, began an official note in this wise: "Thaire is a good meny dranes * * * that needs repairs," etc. Here is an ingenuity in spelling, and in avoiding correct English, which speaks more for the native genius of the man than for his literary training; but he was successful as some men count success; and let it not be inferred that we are to disparage the achievements of men like these. Now, education beyond the mere ability to read and write, and especially a liberal training, does not as a rule make men better money-catchers. On the contrary, knowledge in the mind leads to a thirst for more, which it is often costly to acquire; a cultivated taste creates wants which it is expensive to gratify; and the mind interested in the study of nature, of science, art, history, is diverted from that undivided attention to business which is necessary, if one would build from nothing a large fortune. It must, then, be admitted that if wealth is the only end sought, the schools are not doing what is expected of them.

A more worthy aim of education is to put the child, as far as possible, in full possession of all his faculties; to develop his reason and his power for usefulness in all the activities of life. He should learn to read, not for reading itself, but for what it will lead to. Solving a problem has no value except as it gives the child ability to solve another and forms a step in the onward progress. This is true to a great extent of all the studies in school. Trained with such an aim as this, the pupil, though no better fitted perhaps for accumulating wealth, will be better able to use, and enjoy with profit to himself and others, what he does acquire, and better prepared to meet the losses and disappointments of life, and to be a companion for himself. This higher aim of all education ought not to be overlooked.

Many people who have not been engaged in instructing the young expect too much of children. A learned man at the age

of forty is shocked that the pupils of a school are so ignorant, and display such lack of judgment and appreciation of what has been taught them; he forgets what manner of boy he himself was, and that for twenty years he has been ripening. He would be no less shocked by a mental photograph of himself at the age of sixteen. A man of business is shocked that pupils know so little of practical affairs, of men and things; in estimating what they ought to know in this direction, he must discount largely for the growth which twenty or thirty years of active life have given him—and, what is more, he must remember that a thorough knowledge of affairs cannot be taught from books in school. The value of this kind of training, however, should not be ignored; and the following quoted sentiment is commended to the attention of teachers. "The differences observed between men are not so much real as apparent; the rarest gifts and capabilities often exist in men unnoticed, because, by poverty or want of culture, they have never been brought to view; and even more original and racy ideas are to be obtained from men of strong native powers, though without education, than from those well educated; since the ideas of the latter class often flow in the same channel, are more or less artificial; and they frequently retail only what they have imbibed from books, in which case memory saves the toil of thought. Rudeness of speech is by no means rudeness of thought, and valuable information may often be obtained from those most ignorant in some respects."

In criticising our schools it must be remembered that the results of the present system of education do not all appear at present. The apparent effect on an individual does not settle the case for the system. Education is a spiritual thing; its influence is pervasive and its effects far-reaching. It cannot be weighed and measured like the product of a factory. Its value cannot be computed in dollars and cents. Like the air, the dew, and the sunshine on vegetation, its best effects are constant and unseen. "Canst thou bind the the sweet influences of the Pleiades, or loose the bands of Orion?" No more can you parcel out the effects that flow from good schools.

THEORY OR FACT.

PROF. STEPHEN H. CARPENTER, University of Wisconsin. IN THE EDUCATIONAL WEEKLY for Aug. 8, was an extract from an article by Prof. Seelye, in which statements are made in the most positive way as facts, when it seems to us they cannot be considered as aught than theories, and theories spun out of a very unsubstantial film of fact. For instance: "Women prefer their own [colleges] and so do the men." Here is a general statement made as though it were a universal fact. How does Prof. Seelye know this? How does he read this deduction? What opportunity has New England afforded for testing the question? To test it fairly the colleges should be thrown open to young women, and then see which they will choose. To bar the doors against them, and draw from the fact that they do not attend, the inference that they do not wish to, is hardly a legitimate application of induction.

But the statement as made is not a fact, for here in the states of Michigan, Wisconsin, and Minnesota, there are five hundred women that prefer to attend the universities rather than the female colleges. Had the Professor qualified his statement so as to read, "Some women prefer their own colleges," we would make no objection; but such a general statement cannot be allowed to pass unchallenged.

Again Prof. Seelye says: "Coeducation exerts an injurious influence on female character." We ask again, how does the Professor know this? Has he from an intimate association with young women thus educated had his moral sensibilities shocked by the evidences of injury done to their character, and has he the means of knowing that this injury was due to the fact that they recited mathematics in the same class with young men? We do not believe this; and our belief has been compelled by ten years of constant observation. The young women who have graduated from this University show no such signs of moral injury. They show as much culture and refinement, and all womanly graces as any women in the state; they make as dutiful wives, as careful mothers, as good housekeepers, as any women in the land. But perhaps we are not in a situation to judge of the demoralizing effect of association with college men of the East, as none of our young men are criminals hiding from the sheriff, as is the case with some eastern colleges with which Prof. Seelye must be presumed to have more than a passing acquaintance. We can only speak for the West, and we unqualifiedly pronounce the criticism of the Professor wholly mistaken.

Men and women have the same mental faculties; the resemblances are generic; the differences are specific. In so far as they are possessed of faculties in common, we can see no good reason why their education should not be identical, and as God has intended men and women to be in the world together, why should they not be educated together? They are born in the same families, attend the same primary and intermediate schools, attend the same church, and no longer in this part of the world sit on separate sides of the building with a high partition between them; they attend lectures and places of amusement together,—and one day's picnic is as "dangerous" as a year's school,—in short they are thrown together by our whole social life, and why should education be the one thing in which association should have "an injurious influence on female character?"

We do not admit that this question of coeducation has been decided in the negative; and especially do we protest against its being decided *ex-cathedra*, by those who have had no experience, against the unanimous and concurrent testimony of those who have had a wide experience, directly to the contrary.

Some women will prefer female colleges, because the range of studies suits their taste better, just as some young men will prefer the so-called "Business Colleges" because they can learn there what they wish to, without the general culture that a regular college course is intended to give. But it is no less true that "some women" do prefer the regular college course to the "finishing studies" that form so large a part of female colleges. There is room for both, and there will be students for both.

Again, it seems to us that the surest way to render coeducation demoralizing is to assume that it will be at the outset. Treat a man like a thief, and you suggest to him every day of his life that he may be a thief; treat him like an honest man, and you suggest to him the possibility of honesty. Show that you expect the influence of young men to be corrupting, and your expectations will secure their fulfillment; show that you expect purity of life, and this confidence will go far to secure the end desired.

Our respect for the young men under our charge will not allow us to suffer such a reproach to rest upon them; we do not believe their influence demoralizing.

Toledo, Iowa, is building a grand school building, commodious and elegant.

GRUBE'S METHOD.—IX.

Prof. LOUIS SOLDAN, St. Louis Normal School.

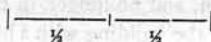
THE order in which fractions are considered is: halves, thirds, fourths, fifths, etc. The processes to which fractions are subjected are again:

1. Pure number, and under this
 - a. Measuring.
 - b. Comparing.
 - c. Combinations.

2. Application of what has been taught with pure numbers, in applied examples involving the four processes.

The regular illustration for fractions is the line divided into parts; a circle divided into parts may be substituted for it. It is necessary to give an abundance of practical examples under each fraction, since the four processes are explained and made use of at the very beginning. In Division with fractions, Grube urges strongly not to go here beyond the idea of "being contained in." It is nonsense, he says, to speak of 2 divided by one half, and the like, at this period of instruction. That $\frac{1}{2}$ is contained 4 times in 2 will be understood by the child, because it can be shown to him, but the idea of division is more difficult. Even examples like $4 \div \frac{2}{3}$ should not be read four divided by $\frac{2}{3}$, but rather: 4 is twice the third part of what number? or, still better, $\frac{2}{3}$ are contained in 4 how many times?

FIRST STEP.
Halves.

1. 

If I divide one (a unit) into two equal parts, I obtain 2 halves. A half is one of the 2 equal parts into which I have divided the whole.

$$1 \div 2 = \frac{1}{2}, \text{ or } \frac{1}{2} \times 2 = 1.$$

Measuring.

- a. (Addition.) $\frac{1}{2} + \frac{1}{2} = 1$.
- b. (Multiplication.) $1 \times \frac{1}{2} = \frac{1}{2}$. $2 \times \frac{1}{2} = 1$.
- c. (Subtraction.) $1 - \frac{1}{2} = \frac{1}{2}$.
- d. (Division.) $\frac{1}{2} \div \frac{1}{2} = 1$, $1 \div \frac{1}{2} = 2$ ($\frac{1}{2}$ is contained 2 times in 1).

Applications of these four examples:

1. $1 + 2 = \frac{3}{2}$, hence $2 + 2 = \frac{4}{2}$, $3 + 2 = \frac{5}{2}$, $10 + 2 = \frac{12}{2}$, $100 + 2 = \frac{102}{2}$, etc.

a. $\frac{1}{2} + \frac{1}{2} =$	$1\frac{1}{2} + \frac{1}{2} =$	$1\frac{1}{2} + 1\frac{1}{2} =$
$1 + \frac{1}{2} =$	$2\frac{1}{2} + \frac{1}{2} =$	$7\frac{1}{2} + 4\frac{1}{2} =$
$2 + \frac{1}{2} =$	$12\frac{1}{2} + \frac{1}{2} =$	$7\frac{1}{2} + 8 =$
$3 + \frac{1}{2} =$	$18\frac{1}{2} + \frac{1}{2} =$	$7\frac{1}{2} + 8\frac{1}{2} =$
etc.	etc.	etc.

b. $2 \times \frac{1}{2} = 1$, $1 \times \frac{1}{2} = \frac{1}{2}$, $6 \times 15\frac{1}{2} = (6 \times 15) + 6 \times \frac{1}{2}$, etc.
 $3 \times \frac{1}{2} = 1\frac{1}{2}$, $2 \times 1\frac{1}{2} = 2 \times \frac{3}{2} = 3$, $9 \times 80\frac{1}{2} =$
 $10 \times \frac{1}{2} = 5$, $3 \times 1\frac{1}{2} = 3 \times \frac{3}{2} = 4\frac{1}{2}$ (If $\frac{1}{2} \times 1 = \frac{1}{2}$, then
 $100 \times \frac{1}{2} = 50$ etc. $\frac{1}{2} \times 6 = 3$
 $\frac{1}{2} \times 9 = 4\frac{1}{2}$, etc.)

c. $1 - \frac{1}{2} = \frac{1}{2}$, $2 - 1\frac{1}{2} = \frac{1}{2}$, $2\frac{1}{2} - 1 = 1\frac{1}{2}$, $3\frac{1}{2} - 2\frac{1}{2} = 1$
 $2 - \frac{1}{2} = 1\frac{1}{2}$, $6 - 4\frac{1}{2} = 1\frac{1}{2}$, $6\frac{1}{2} - 3 = 3\frac{1}{2}$, $8\frac{1}{2} - 4\frac{1}{2} = 4$
 $3 - \frac{1}{2} = 2\frac{1}{2}$, $9 - 3\frac{1}{2} = 5\frac{1}{2}$, etc.

d. $1 \div \frac{1}{2} = 2$ (for $1 = \frac{2}{2}$, in $\frac{2}{2}$ one half is contained twice, hence $1 \div \frac{1}{2} = 2$.)
 $4 \div \frac{1}{2} = 8$, $1\frac{1}{2} \div \frac{1}{2} = 3$, $6 \div 1\frac{1}{2} = 4$, $10\frac{1}{2} \div 3\frac{1}{2} = 3$, $21 \div 7 = 3$
 $6 \div \frac{1}{2} = 12$, $9\frac{1}{2} \div \frac{1}{2} = 19$, etc.

2. a. Compare $\frac{1}{2}$ with 1; $\frac{1}{2} = 1 - \frac{1}{2}$, $1 = \frac{1}{2} + \frac{1}{2}$, $\frac{1}{2}$ = half of 1, $1 = 2 \times \frac{1}{2}$.
- b. What number is equal to the difference between $\frac{1}{2}$ and 1?
 How many must I take from 16 to obtain $9\frac{1}{2}$?
 Of two numbers the smaller one is $9\frac{1}{2}$, the difference between it and the larger one is $6\frac{1}{2}$, what is the other number?

Name some other two numbers that have a difference equal to $6\frac{1}{2}$.

- c. How many times must I take $\frac{1}{2}$ in order to have 1? $4\frac{1}{2}$ in order to have 9? 18? $4\frac{1}{2}$ is half of what number? 9 is twice what number?

The quotient is 2, the divisor $4\frac{1}{2}$, what is the dividend? (The quotient 2 tells that $4\frac{1}{2}$ must be contained 2 times in the divisor, hence the divisor must be twice $4\frac{1}{2} = 9$). I must take one-half of what number in order to have $4\frac{1}{2}$? Etc.

3. a. What is meant by $\frac{1}{2}$ dollar, dozen? (One half dollar is one of the two equal parts into which a dollar may be divided.)
- b. How many half dollars in 55 cents? $\frac{1}{2}$ dollar + 5 cents, etc.
- c. Difference between 8 times 55 cents and 9 times 57 cents. ($8 \times 55c = 8 \times \$\frac{1}{2} + 8 \times 5c = \4.40 , $9 \times 57c = 9 \times \$\frac{1}{2} + 9 \times 7c = \$4.73c$, $\$4.73c - \$4.40 = 33c$, hence the difference, etc.)
- d. The cook of a hotel buys $17\frac{1}{2}$ pounds of meat + $13\frac{1}{2}$ pounds + $8\frac{1}{2}$ pounds. This will be sufficient for how many persons if 8 ounces are the calculated allowance for each?
- e. If a pound of tea costs $\frac{1}{2}$ dollar how much can be bought for 25 cents?
- f. If 5 yards of cloth cost 6 dollars, what is the price of $10\frac{1}{2}$ yards? (1 yard = fifth part of $\$6 = \1 + fifth part of 100 cts = $\$1.20$. $\frac{1}{2}$ yard = 60c. 10 yards = $\$12$, $10\frac{1}{2}$ yards = $\$12.60$.)

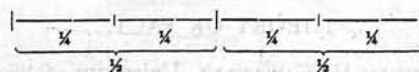
3. Applied examples.

In the treatment of the other fractions, the same plan is followed. Fourths, for instance, are first compared with the whole, then with halves, by addition, multiplication, subtraction, division, and finally with thirds. In the latter process, the illustration is peculiar and consists of two parallel horizontal lines drawn close to each other, the upper one divided into four parts, the lower one into three parts, and then each line by light marks again into twelve parts, so that both show the mediating fraction of twelfths and their relation to fourths and thirds.

The following is a brief abstract of the treatment of fourths, giving in full those details only which cannot be understood from what has been said in connection with the treatment of $\frac{1}{2}$.

THIRD STEP.
Fourths.

A. Fourths, Halves, and Units.



1. If I divide 1 into 4 equal parts, each part, etc.

$$1 \div 4 = \frac{1}{4}, \text{ or } \frac{1}{4} \times 4 = 1.$$

- a. $\frac{1}{4} + \frac{1}{4} = ?$, $\frac{3}{4} + \frac{1}{4} = ?$ etc. (Adding by fourths.)
- b. $1 \times \frac{1}{4} = ?$, $2 \times \frac{1}{4} = ?$ etc. (Multiplying by fourths.)
- c. $1 - \frac{1}{4} = ?$, $\frac{3}{4} - \frac{1}{4} = ?$ etc. (Subtracting by fourths.)
- d. $\frac{1}{4} \div \frac{1}{4} = ?$, $\frac{3}{4} \div \frac{1}{4} = ?$ etc. (Dividing by fourths.)

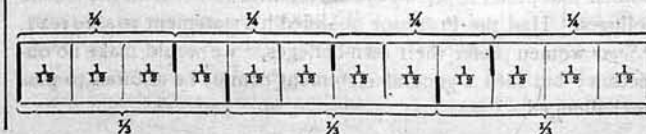
- e. 1. Fourths as the quotient of integers: $1 \div 4 = \frac{1}{4}$, $2 \div 4 = \frac{1}{2}$, etc.

2. As the product of fourths and integers: $\frac{1}{4} \times 3 = \frac{3}{4}$, $\frac{1}{4} \times 100 = 25$.

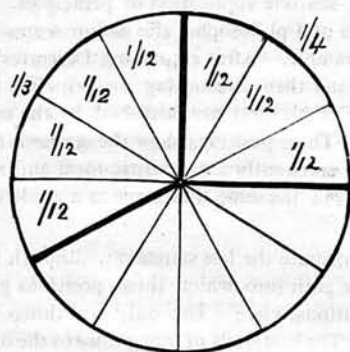
2. a. Addition (1. Mixed numbers and fourths, $4\frac{1}{4} + \frac{1}{4}$; 2. Mixed numbers + mixed numbers, $4\frac{1}{4} + 4\frac{1}{4}$).
- b. Multiplication (integers \times fourths and \times mixed numbers, etc.)
- c. Subtraction.
- d. Division.

B. Fourths and Thirds.

Illustration:



Or, if preferred, the circle may be used to illustrate the same principle, as follows:



1. Fourths and thirds meet in twelfths.

$$\frac{1}{4} = \frac{3}{12}, \frac{1}{3} = \frac{4}{12}.$$

$$\frac{1}{4} = \frac{1}{3} - \frac{1}{12}, \frac{1}{3} = \frac{1}{4} + \frac{1}{12}.$$

$$\frac{1}{4} = \frac{1}{3} \times \frac{3}{4} \text{ for } \frac{1}{4} + \frac{1}{3} = \frac{7}{12}, (\frac{1}{12} + \frac{1}{12} = 3 + 4.)$$

$$\frac{1}{3} = \frac{1}{4} \times \frac{4}{3}, \text{ for } \frac{1}{3} + \frac{1}{4}, \text{ etc.}$$

2. Compare $\frac{1}{4}$ with $\frac{1}{3}$. $\frac{1}{4} = \frac{3}{12}$, $\frac{1}{3} = \frac{4}{12}$.

$$\frac{1}{4} = \frac{3}{12} - \frac{1}{12}, \frac{1}{3} = \frac{4}{12} - \frac{1}{12}.$$

$$\frac{1}{4} = \frac{3}{12} \times \frac{1}{3} \text{ (the 8th part of } \frac{1}{3} \text{ taken 3 times; see illustration), for}$$

$$\frac{1}{4} + \frac{1}{3} = \frac{7}{12} \text{ (the 8th part of } \frac{1}{3} (= \frac{1}{3}) \text{ is contained 3 times (8) in } \frac{1}{4} = \frac{3}{12} + \frac{1}{12}$$

$$= 3 + 8).$$

$$\frac{1}{3} = \frac{4}{12} \times \frac{1}{4}, \text{ for } \frac{1}{3} + \frac{1}{4} = \frac{7}{12}. \text{ (The third part of one-fourth } (\frac{1}{12}) \text{ is contained}$$

$$\text{times in } \frac{1}{3}.)$$

3. Compare $\frac{1}{4}$ with $\frac{1}{3}$, etc.

4. Compare halves, fourths, and thirds.

5. Fractions, integers, and mixed numbers.

6. Combinations and rapid solution of problems.

- C. a. Applied numbers with fourths.
b. Applied numbers with halves, thirds, and fourths.
c. Examples in analysis.
d. Miscellaneous examples.

The other fractions are treated in a similar way.

In giving an outline of Grube's method of teaching the elements of arithmetic, no attempt has been made to comment on any part of it, as it seemed desirable to submit the whole system as originally set forth to the judgment of practical teachers. Many points are open to criticism and not a few may be obvious mistakes. A great number of text-books in arithmetic have been written in this country, in which Grube's work was first published, which have improved the original system and adapted it to the special wants of different school-systems. It seemed better, however, to present the system as it was originally conceived, without giving expression to criticism and difference of opinion, and to let the well-known skill and ingenuity of the teachers of our common schools adapt it to our peculiar wants and make such improvements and changes as may seem expedient.

In regard to one point of the system, however, it looks as if there could be no mistake. The thoroughness with which illustrations are used is an indispensable condition for successful work in the primary grades. If the introduction of the kindergarten has taught some lessons to all of us, the least important among them is certainly not the remarkable results accomplished in arithmetic, which is taught incidentally by means of the building-blocks of Froebel's "gifts." The writer has visited a kindergarten in which problems like "how many twenty-sevenths in three ninths?" were solved by children five or six years old without any perceptible difficulty. The explanation of

this proficiency lies certainly in the fact that ninths and twenty-sevenths are, for those children, not abstract terms, but names of some of the little cubes in their toy box, and that ninths and twenty-sevenths are the names by which they know those little objects with whose comparative size long use has made them perfectly familiar. The association of arithmetical ideas with perceptible objects alone makes arithmetic intelligible to the child. There can be no doubt that many of the methods of instruction used in the kindergarten are excellent and very suggestive and should be carried over into the primary grades as far as the character of the school-room which must be kept distinct from that of a kindergarten admits. In the common school children learn by the senses of hearing and seeing; in the kindergarten by seeing, hearing, and touch. The hand is a very important means of education, and it seems evident that pupils in the primary grades, who are allowed to handle suitable objects, in arithmetic, to count them, to arrange them so as to represent the problems given to the school, will be able to do better work than if instruction in this important study is imparted without the help of objective illustrations.

REVIEWS.

Principles and Practice of Teaching. By James Johonnot. (New York. D. Appleton & Co. Chicago: Jansen, McClurg & Co.)—The author of this work is a teacher of long experience and of considerable literary culture. He has written a book which is of value to teachers.

He writes with the conviction that the feeling is very prevalent that, "in some way the schools are out of joint with the times and that the instruction which they afford is not the highest and best, either as a disciplinary force, or as a preparation for the duties and occupations of life." Consequently his book is an endeavor "to examine education from the standpoint of modern thought." To many persons that phrase, the "standpoint of modern thought," bears a suspicious look. But the standpoint assumed here is that which has been held for the last twenty years by all advanced teachers. It is new only to the fossils and to those who are in a fair way to become fossils.

As this is a book of special value to teachers we shall make no apology for giving a good deal of space to it. To give an idea of the author's views and methods a few illustrations will suffice. On page 51 he makes a good point and one which is to be commended to the consideration of 99 teacher in every 100.

Wrong Practices.—The great conspicuous evil practice in our schools, once almost universal, and still widely prevalent, is that of obliging pupils to commit to memory the words of the text-book. This practice seems to have its origin either in the ignorance or indolence of the teacher, and is one calculated directly to stultify, rather than expand, the mind. It fixes the primary attention on words rather than on thoughts, which words are arranged to express. The words memorized to-day are forgotten to-morrow, and often the thought is never obtained. This process, by substituting apparent for real knowledge, so far consumes the time of the pupil that the attainment of real knowledge is rendered nearly or quite impossible during the school period.

Example of this Practice.—A little girl of eleven years came home late one day, and, on inquiry, said she was detained because she could not recite her lesson in geography. As she had forgotten but one word, however, she soon learned it, completed the lesson, and was dismissed. When asked what the word was, she could not tell, although she came fresh from her recitation only across the street. Upon examination the following was found to be the sentence which made the difficulty, and which she and the other members of the class were obliged to repeat: "The Danubian provinces of Servia, Moldavia, and Wallachia are nominally independent of the Sublime Porte." Further investigation proved that the teacher had made no effort to explain the meaning of any one of the terms used, that no maps were employed in

the recitation, and that the members of the class were as profoundly ignorant of the subject they were supposed to be learning as though it had been written in Choctaw.

We were going to say that this is worthy of *prayerful* consideration. But the effect of such potent means is to be feared. Should this evil spirit (practice) yield and conclude to "come out," of the body pedagogic the rending effects would be appalling upon the great majority of the members of that body. There would be but little left of most teachers after the spirit's departure. In fact would not the breath of life depart from them?

In sketching Dr. Carpenter's physiological explanation of rote-learning, the *London Times* is quoted as follows:

"There are probably few teachers who have not heard something about the possibility of 'learning by rote,' which is one form of mere sensorial activity in which certain sounds have become associated with the sight of certain written or printed symbols, and are uttered when these symbols are seen and remembered; but there is probably not one in a thousand who understands what 'learning by rote' is; how it is accomplished by the nervous centres; how it differs from learning with the intelligence; and how it may be detected and exposed under whatever guise it may be concealed.

"The great majority of teachers think that they have banished learning by rote when their pupils are able to explain their first answer to a question by a second one; the second, in most cases, being as purely sensorial a symbol as the first, and the original sight symbol, with its two vocal equivalents, being really, as far as ideation is concerned, an unknown quantity, for which either of the two other unknown quantities may be substituted.

The last portion of the above sentence is good evidence that too much learning is a dangerous thing. Why didn't Mr. Johnson insert a translation? We suppose the *Times* means to say — Well, we fail to find for ourselves even one vocal equivalent, to say nothing of two. But the *Times* proceeds:

"One of the most familiar illustrations of sensorial action is that which is recorded by the late Mr. Brookfield, in which two children aged about eleven years, who did their arithmetic and reading tolerably well, who wrote something pretty legible, intelligible, and sensible about an omnibus, and about a steamboat, were called upon to write the answers of the Church Catechism to two questions. The children had been accustomed to repeat the Catechism during half an hour each day in day-school and Sunday-school, for four or five years, and this is what they wrote:

"My duty toads God is to bleed in him to fearin and to loaf withold your arts withold my mine withold my sold and with my sernth to whirchp and to give thanks to put my old trast in him to call upon him to onner his old name and his world and to save him truly all the days of my life's end."

"My dooty tods my nabers to love him as thyself to do to all men as I wed thou shall do and to me to love onner and suke my farther and mother to onner and bay the queen and all that one pet in a forty under her to smit myself to all my goones teaches spiritual pastures and marsters to oughten mysilf lordly and every to all my betters to hut no body by would nor deed to be treu in jest in all my deelins to bear no malis nor ated in your arts to kep my ands from peckin and steel my turn from evil speak and lawing and slanders nor to civet or desar othermans good but to learn labour trewly to get my own leaving and to do my doody in that state if life and to each it his please God to call men."

"It will be observed that these written answers, if recited with sufficient rapidity, in the customary school-room patter really bears a horrible likeness to the sounds of the genuine one; and there can be but little doubt that the writers and their classmates had so recited them for years, to the entire satisfaction of all who were a 'pet in a forty' over them.

Other passages are marked which we would like to quote, but space forbids.

This book will be useful in the hands of Normal school classes. Its structure plainly indicates that it has its origin in the school room rather than in the study. The class-room teacher is much more prominent than the philosopher. In comparison with GARVEY'S HUMAN CULTURE as a contribution to the philosophy of education the book before us is very weak; put it is greatly

superior as a tool for molding the young teachers and girls who fill our Normal Schools. Its strength is in its practicalness, in its advice, and sensible application of principles.

As a reasoner and philosopher the author seems to be lame at times. For example. After explaining Descartes' famous *Cogito, ergo sum*, and then illustrating the principle that the materials and order of thought are furnished by the outward world, he remarks: "These positions show the ground for the reconciliation of the apparently antagonistic ideal and real schools of philosophy, and at the same time serve as a guide to educational processes."

We will not dispute the last statement, although we confess we cannot find the path into which these positions guide. But if the two propositions, viz.: The only real things known to us are ideas, and, The materials of thought are in the outward world, present a ground for reconciliation between idealism and realism, we would like to know where the ground is of their antagonism.

Again; the temptation was not resisted to expound that fascinating but hitherto fruitless generalization that there are striking points of analogy between the development of the individual and the development of the race. As an embellishment, or as food for thought, it might be allowed. But the reader is told that of the knowledge gained from this twofold examination of individual and race development "enough is now understood to be of the greatest service to the teacher in preparing his course of study, and in determining the method to be pursued." The proof of this statement nowhere appears in the book; and we would like to have a single principle named in the history of education which cannot be clearly derived, or which as a matter of fact was not derived, from a simple study of the individual, independent of a study of the development of the race. We would like to know the teacher that ever received any help in preparing his course of study, or in choosing his methods, from a study of the growth of the race. In saying that this generalization is fruitless so far as the practical work of education is concerned, we do not mean that it is useless. But we protest against a valuable work on education, as this is, containing any loose or unwarranted general statements. It is a fault to which we are all prone. A teacher of teachers ought to avoid it more than all others.

The chapter on moral culture is to us one of the most satisfactory in the book, although it is usually the least satisfactory in books of the kind. It wisely makes no pretensions to science or philosophy, and yet it is systematic. It contains little that is not practical or right to the point. The book will be useful to any teacher and particularly to those who have reached the point where we begin to scrutinize and compare methods, and to judge for ourselves.

Primer of Design. By Charles A. Barry, Supervisor of Drawing, Public Schools, Boston, Mass. (Boston: Lee & Shepard. New York: Charles T. Dillingham. Chicago: Jansen, McClurg & Co. pp. 100, price 75 cents.)—This is a very pleasing little book, and must prove quite suggestive in the hands of an active drawing teacher. It has much less of machinery and minuteness of detail than most books of the kind. It presents many exercises in composition that do not comply with the accepted laws of design, which, more than pages of criticism, will impress the pupil with the beauty of the following designs which do comply with the established rules.

Fowne's Manual of Chemistry, edited by Robert Bridges, M.

D. New American from the twelfth English edition. (Philadelphia: Henry C. Lee. Chicago: Jansen, McClurg & Co.)

This is a veteran book, having gone through many editions. But unlike other veterans it is not old. The American editor and the English editor are two of the most accomplished of living chemists. The book contains everything that is new in chemistry, and as much matter as can be crowded into one thousand pages. Part I. is a very pleasant but succinct discussion of those branches of physical science which are closely allied to chemistry—heat, light, electricity, and the physical constitution of gases.

The rest of the book is given up to the science of chemistry, pure and unadulterated. A practical worker in the science affirms that the book was evidently born in the laboratory, and that it is simply indispensable to the chemical student. In the American edition, quantities are usually represented both by the metric system and by the more common standard; and temperatures by Centigrade and Fahrenheit thermometers. The English edition is in two volumes. By using small but very clear type, the reprint compresses the whole into one volume not at all unhandy for study and reference.

NEW BOOKS FOR TEACHERS.

[Publishers may secure an announcement of their new publications in this weekly list by sending copies to the editor. It is desirable that a full description of the book, including price, should accompany it. More extended notices will be made of such as possess merit, or are of interest to teachers.

Any book named in this list may be obtained by forwarding the price to the publishers of THE EDUCATIONAL WEEKLY.]

- ANGELL, H. C. How to take care of our eyes; with advice to parents and teachers in regard to the management of the eyes of children. 16mo, pp. 71. Bost.: Roberts Bros. \$.50
- CRITTENDEN, Samuel W. Inductive and practical treatise on book-keeping by single and double entry. Elementary or school ed., cont. 5 sets of books by single entry and 6 sets by double entry. Rev. and enl. 8vo, pp. 192. Bds. Phila.: W. S. Fortesque & Co. 1.25
- ELECTIC composition book, No. 1. Sq. 12mo. Bds., 15c. Pap., 10. Cin.: Van Antwerp, Bragg & Co.
- FRICK, J. Physical techniques; or, practical instructions for making experiments in physics, and the construction of physical apparatus with the most limited means. Tr. by J. D. Easter. New ed. Ill. Cr. 8vo. Phila.: J. B. Lippincott & Co. 2.50
- GILBERT, J. H. An introductory spelling-book. Sq. 16mo, pp. 112.—Graded test spelling-book, to which are added sentences for analysis and parsing. 16mo, pp. 104, ea., bds. Bost.: R. S. Davis & Co. 20
- OLIPHANT, Mrs. Foreign classics for English readers; Goethe, by A. Hayward. 16mo. Phila.: J. B. Lippincott & Co. 1.00
- PALMER, Jos. H. Elements of book-keeping; embracing single and double entry, with a great variety of examples for practice. 12mo, pp. 180. N. Y.: Sheldon & Co. 1.00
- PSYCHO-Physiological Sciences and their Assailants. Response, by A. R. Wallace, of England; Prof. J. R. Buchanan, of New York; Darius Lyman, of Washington; Epes Sargent, of Boston; to the attacks of W. B. Carpenter, of England, and others. 12mo, pp. 210. Pap. Bost.: Colby & Rich. 50
- PRICE, B. Chapters on political economy: being the subject of lectures delivered in the University of Oxford. 12mo. N. Y.: Scribner & Welford. 5.00
- WALL, Chas. H. The student's French grammar; a practical and historical grammar of the French language. With an introd by E. Littré. 12mo, pp. 458. N. Y.: Harper & Bros. 1.40

THE ILLINOIS NORMAL SCHOOL.

[Special Correspondence Chicago Tribune.]

AS is generally known, this school went into operation in September, 1857. The magnificent building was first occupied in June, 1860. It is not generally known that this spacious edifice, with its ample campus of sixty acres, and its adjoining farm of 100 acres, was the joint gift of the county of McLean and several of its citizens.

When modest Illinois took her place among the sisterhood of states, our common Uncle Samuel made her a neat little present of three per cent of the proceeds from the sale of public land, within her domain, upon the agreeable conditions that five-sixths of the interest accruing thereon should be applied to the support of schools, and one-sixth to the maintenance of a state educational institution.

In 1835, Illinois, being a shade "hard up" for lack of coin of the realm, turned this fund into the general treasury, with the promise that she would return it when times became somewhat easier.

In 1837, Congress made the additional grant of the seminary lands, the proceeds of which were to be devoted to the same purpose as the one-sixth already mentioned.

In 1857, Illinois had so far recovered from her financial embarrassment that she was enabled to fulfill the promise made twenty-two years before; so the interest upon these funds was applied to the support of the new institution.

In 1861, the state owed these funds about \$99,000 in interest. It decided that \$65,000 of this should be used to liquidate the debts of the institution, and the remaining \$34,000 to augment the principal.

In 1865, the state made its first appropriation from the General Treasury for the benefit of the school. It relieved the institution from certain unpaid obligations, which amounted to about \$30,000.

The interest upon the funds already named was entirely adequate to meet current expenses until 1869, since which time there has been an additional appropriation of \$10,000 a year.

There have been about 4,000 students in the Normal Department, and about an equal number in the Model or Tuition Department. About nine per cent of its students graduate, the average student attending about one year. The small percentage of graduates is accounted for by the fact that a large number are teachers before entering the school, and, after an attendance of about three terms, return to their chosen work. Fully 1,000 of its pupils are now in the district and graded schools of the state.

In the first thirteen classes, there were 201 graduates, fourteen of whom are dead. Reports have been received from nearly all the survivors, and of these there are but two who have not taught. One of these was an invalid, and the other became a "missionary" for a book house. Nine served an average term of two and a half years in the Union army, while the average teaching has been six and one-fourth years. One has taught eighteen years; two, sixteen; four, fourteen; six, thirteen; four, twelve; ten, eleven; eight, ten; five, nine; thirteen, eight; fourteen, seven; twenty-one, six; and so on.

In the last five classes there have been 100 graduates. Of this number, one is dead; two have discharged their obligations by paying their tuition in full, sixty-six have taught constantly since graduation, one is an invalid, two have continued their studies elsewhere, while only six of the remainder have not taught, and three of these were of last year's class, two of whom will probably teach the coming year; while sixty per cent of all the persons that have graduated taught in the year 1877-'78.

In addition to the above a considerable number of the graduates of the Tuition Department become teachers,—a number twice as great as will supply any deficiency from the Normal Department.

The undergraduates are found in nearly every county in the state. Of course, not all are successful; but the very great majority are doing excellent work, and are returning a large dividend for the investment. Of the money annually spent in the state for public schools, not one-eighth of one per cent has been expended on this institution. Several of the Seniors are already employed for the next year.

During the last few years the professional or special normal work has been greatly increased, and the result is that persons do not seek the school unless desiring to fit themselves for teaching. No one is received who does not pledge himself to become a teacher in the schools of the state, unless he be from another state, in which case he is required to pay tuition.

The public is cordially invited to come and see for itself what the institution is doing.

NORMAL.

MINNESOTA STATE EDUCATIONAL ASSOCIATION.

THE third annual session of the Minnesota State Educational Association was held at Minneapolis last week Tuesday, Wednesday, and Thursday. The meeting was not very largely attended, only about 150 teachers being present. Nor was it a very enthusiastic meeting, for some reason. It may not have been well advertised, and it may be that a large number of the teachers of the state were away on vacation trips, but when we remember the success of the meeting last year, we can hardly attribute the lack of numbers and enthusiasm to the latter cause. It was unfortunate that the local committee and the superintendent and teachers of Minneapolis were absent from home. If it had not been for County Superintendent C. W. Smith and Prof. Thompson, who returned from a vacation tour only the day before the Association assembled, and for considerable activity on the part of Prest. Folwell, the membership would have been doubtful whether they had not after all assembled in the wrong town! To add to the discomfort and discouragement of those who did attend, the street railway track to the East Side, where it was announced that the sessions would be held, happened to be torn up for a few days, and the capacity of the teachers to apply Dr. Hewett's walking suggestions to their schools next winter was pretty well tested. After holding two sessions in the hall of the University, it was decided to engage the "Association Hall," on the West Side, and this not only favored an increased attendance, but also toned up the spirits of those who were trying to have a good meeting.

The session Tuesday evening was occupied by a brief address of welcome from Prest. Folwell, and the annual address of the President of the Asso-

ciation, Prof. D. C. John, of Mankato State Normal School. Our space will not permit even an abstract of this address or of the papers read at subsequent sessions, though we hope to present some of them in future issues of the WEEKLY.

Wednesday morning a paper on "Programme for Graded and Ungraded Schools" was read by D. A. Stockley. Mr. H. A. Pratt, of Fairbault, read an able paper on "Methods of Conducting Recitations," taking the position that the methods of recitation should be subordinate to the method of study; that a regular course of study is necessary to a thorough and complete understanding of any subject. In the primary grades language should be considered the most important study. The student must do his own brain work. The relation of the teacher to the pupil is similar to that of the engineer to the engine. He then considered how the processes should be adapted to the above principles. The idiosyncracies of teachers are such that all cannot succeed with the same method. The young and inexperienced teacher should study the methods of good teachers and then form a method of his own. He considered the analytic method the best. The whole must be divided into parts, and the parts must be considered with their reference to each other and to the whole. The analytic method of study differs not materially from the method of observation of objects around us.

Prof. C. A. Morey, of the Winona State Normal School, read a very interesting paper on "Compulsory Education," which was requested for publication by a vote of the Association.

In the afternoon, Supt. A. D. Roe presented a paper on "School Buildings, Grounds, and their Belongings," relating chiefly to the country schools. He would have school buildings situated where free air could be secured, not in groves and yet sufficiently sheltered, on elevated ground, in a healthy locality, with plenty of room for games and gymnastics. He also laid great stress upon good ventilation, and a proper regard for the health of pupils.

Supt. Geo. C. Tanner, of Steele county, read a paper on "The Best Method of Electing County Superintendents," an outline of which will be published in the WEEKLY.

The claims of the Institution for the Deaf, Dumb, and Blind were presented in a brief address by Prof. Noyes, the principal, which awakened a good deal of interest in the work of that institution. In the section for Higher Education, presided over by Prof. L. Wright, Mr. A. F. Bechdote, principal of the schools at Fairbault, read a paper upon "Some changes in our Graded Schools Demanded by the Times."

Prof. C. M. Boutelle, of the Winona Normal School, read a practical and valuable paper on "The Study and Teaching of Science." In the evening, Supt. Burt read a paper prepared by Prof. Gray, of the St. Cloud State Normal School, and supplemented the paper by some remarks on the same subject—"Natural Science in the Common Schools." An interesting discussion followed. Mr. Burt had argued that the high schools should accomplish more in preparing pupils for the business pursuits of life, that much of the prejudice against high schools was owing to a conviction that they afforded nothing of practical utility to their graduates, and that this prejudice could be largely overcome by teaching natural science in the common schools. The discussion was participated in quite generally, each speaker being limited to five minutes.

Thursday was the best day of the three. In the morning the following officers were elected for the following year: President, Supt. O. Whitman, Red Wing; Vice President, Prof. L. B. Sperry, of Northfield; Secretary, Prin. H. W. Slack, St. Paul; Treasurer, Prof. C. A. Morey, Winona. Winona was chosen as the place for holding the next session of the Association. Prof. Morey was made chairman of the committee with power to choose his assistants. Prof. Morey's paper on Compulsory Education was then taken up for discussion. The position taken by Prof. Morey—favoring compulsory education—was opposed by Supt. C. W. Smith, Prof. Goodhue of Carleton College, and Prof. Sperry, also of Carleton College. The paper was defended by Supt. Hancock, of Goodhue county, and briefly by its author. The question was finally referred to the committee on resolutions.

Prof. L. Wright read a paper upon "Spelling."

The most interesting discussions at the various sessions were upon the subject of "School Hygiene," first presented by Prof. L. B. Sperry, in a vigorous and very practical address, and twice by Dr. C. N. Hewett, Secretary of the State Board of Health, who stood for two hours a steady cross-fire of questions from interested teachers and superintendents.

No report can do justice to this feature of the exercises at Minneapolis, and we can only say that those who were not fortunate enough to hear the remarks of these two men, both practical physicians and earnest students, lost an opportunity which seldom occurs. There was more of real value in the discussions of this subject than in all the rest of the exercises, and the result will probably be beneficial to the health of the school children of the state.

Supt. C. W. Smith gave some interesting notes on his experience in visiting schools. He was followed by Supts. Roe and Tawner, who spoke from the position of the county-superintendent. By the way, the attendance of county superintendents at this meeting was not large, but those who appeared upon the floor in discussion were men of fine intellectual ability, good culture, and extensive experience in educational work.

The following resolutions were reported by the committee—Pres. Folwell, Prof. Sperry, and Prof. Everett—and adopted.

"Resolved, That we extend to the railroad companies, the hotels and hospitable people of Minneapolis, the officers of the Association, and the local committee, the authorities at the University, and the Christian Association quartette, all of whom have so considerably, kindly, and efficiently served the Association in their several capacities, the hearty thanks and cordial goodwill of all the members of the Association.

"2. Resolved, That we extend our sincere thanks to the daily papers of St. Paul and Minneapolis, especially to the Minneapolis Tribune for their interest and assistance in making the meeting of the Association so pleasant and helpful to the members and so profitable to the general public.

"3. Resolved, That the Association, feels to congratulate the people of this state on having as Superintendent of Public Instruction so able and efficient man as the Hon. D. Burt. His unremitting and self-denying service has already produced grand results, and it is hoped that he may be spared to us yet many years to lead and assist in perfecting our educational system.

"4. WHEREAS, The act passed at the last session of the legislature for the encouragement of higher education, is leading, in many communities, to helpful exertions for the improvement of the schools, it seems proper for the Educational Association of the state to express its views upon this subject, therefore

"Resolved, That we consider a judicious use of state funds for this purpose fully warranted by the design of our system of popular education and quite as proper in the case of schools furnishing instruction preparatory to collegiate and university courses as when the aid is directly given to such higher institutions of learning.

"2. Resolved, That we consider the passage of such a law at this time very opportune and significant in view of the agitation in some quarters against state aid for any schools above the lowest grade for elementary instruction. By such legislation our state has nobly committed itself to the support of higher education in accordance with its representation for general intelligence and substantial progress.

"3. Resolved, That the law in question should be amended to permit our cities as well as incorporated villages and towns to share its benefits, and that we hope to see this aid hereafter extended to other schools no less deserving than those which may this year share in this form of encouragement to higher education.

"5. Resolved, That it is the conviction of this Association that every teacher should take and carefully peruse some one or more of the educational journals now published in our country, and we heartily commend THE EDUCATIONAL WEEKLY, published in Chicago and edited by practical teachers from each state in the Northwest, as the one more especially adapted to the wants of our teachers.

"6. Resolved, That this Association appreciates the efforts of the State Board of Health to improve the public hygiene, especially in our schools, and the teachers hereby agree to cooperate so far as possible in this highly important work.

"7. Resolved, That compulsory attendance be a standing subject of discussion in the meetings of this Association, and that the public press be used as far as possible by its members in making the people familiar with the best features of such laws and their results."

A jolly company took advantage of the opportunity afforded by the local committee, on Friday, and made an excursion trip to Lake Minnetonka.

STATE EDUCATIONAL INTELLIGENCE.

ILLINOIS.—Payson, Dunton & Scribner's system of Penmanship has been adopted by the Chicago Board of Education, also Anderson's History of the United States, Robinson's Practical Arithmetic, the Model Readers, Swinton's Word Book, and Steele's Natural History. It was voted by the Board that the Readers adopted should be furnished at some place convenient to each school at the lowest price that any series of Readers has been offered, the price to be computed upon the quantity of reading matter contained in the respective books. The publishers were requested to signify their acceptance of this condition in writing, before the next meeting of the Board.

The sixth annual session of the Macoupin Co. Teachers' Normal Institute is proving to be eminently successful this year. It will continue for a term of six weeks. It is under the supervision of Supt. F. W. Crouch, assisted by Profs. J. Pike, J. S. Kenyon, and J. D. Couley. There are 87 teachers now in attendance, representing six counties. The teachers of Macoupin Co. are beginning to recognize their Normal as indispensable. No better drilled, more energetic, or thoroughly practical teachers can be found in the state than in Macoupin. This session will close with an examination August 21, 22, 23, for State Certificates. It is proposed that next year it be made an inter-county institute and the teachers of other counties be invited to participate. It is believed that 200 teachers will attend it next year. Hon. S. M. Etter, State Supt., lectured before the Normal class on the 19th inst.

INDIANA.—The Northern Indiana Normal School closed its most prosperous year Aug. 8. There have been 1,580 students in attendance during the year.

Prof. W. H. Fertich, of Muncie, the well-known elocutionist, has received appointment to a professorship in the Methodist College at Fort Wayne.

The annual city teachers' institute at Indianapolis has been postponed to Aug. 30, when it is expected the new superintendent, Prof. H. S. Tarbell, now State Superintendent of Schools in Michigan, will be present and preside.

Supt. Barnett is retained for another year at Elkhart, with Principal Chas. M. Van Cleve, and Misses Kate Drake and Florence C. Nichols, assistants in the high school.

Supt. G. W. Allen, Mr. D. B. Nowels, Misses Celia Wilkinson, Mattie Benjamin, and Candace Bouroughs, constitute the force to be in charge of the Rensselaer school next year.

At Crown Point Mr. W. W. Cheshire remains Principal in the down-town building, and Mr. Andrews is appointed to the charge of the old Institute house. The nine teachers have their salaries reduced this year by a total of 400—the subordinates \$5 per month.

IOWA.—Tama county Normal Institute began Aug. 12, with 100 teachers enrolled which number is gradually swelling to 200. Co. Supt. Brown is the conductor. His assistants are Professor J. J. Andrews, of Toledo schools, Prof. W. H. Black, of Montour schools, and F. B. Gault, formerly of Tama city schools. Work has commenced in earnest and all things prophesy a good session. Prof. Parker, of the State University, will deliver a course of lectures on educational themes.

Rev. W. F. Barclay, A. M., of Northwood, has accepted the principalship of Albion Seminary; he is also to be the pastor of the M. E. Church.

Supt. Guthrie's salary at Iowa City has been raised to \$1,500, and he has been engaged for three years.

From the *Normal Monthly* we gather several items of news.

The State Teachers' Association will meet during the holidays at Marshalltown.

G. W. Guthrie becomes principal at Centerville; Orion Scott at Tipton; R. G. Young, at Mechanicsville; J. H. Marvin, at LeClaire; Mr. Mowat, of Newton, at Winterset; Mr. Applegate, of Knoxville, at Sigourney; Mr. Park Hill, at Anamosa.

TENNESSEE.—The Southern Educational Convention held at Chattanooga last week was largely attended by representative men from all the Southern States, and an interesting time was had. We hope to have room in these columns next week for a full report.

NEW HAMPSHIRE.—Women may hereafter vote at school meetings in this state, a bill to that effect having passed both houses of the Legislature.

The entire population of the state is less than a third of a million. The number of free public schools is 2,599; of free public school-houses, 2,223; total number of teachers, 3,669. Of the whole population between five and fifteen years, 4,164 are not attending any school, and there are 2,247 youths of ten to twenty-one years of age who cannot both read and write. The public graded schools of the state number 400. The number of ungraded schools in the state is 2,199.

NORTH CAROLINA.—The North Carolina Legislature of 1876-77 provided for two Normal Schools—one for white persons and one for black persons. The latter offers continuous instruction throughout the year at Fayetteville, N. C. It is under the care of Mr. Harris, a colored man who was prepared for the work in Ohio. The second session of the school for white persons has just closed at the University of North Carolina. It lasted six weeks and was managed by Mr. Battle, the president of the University, and Mr. Ladd, Superintendent of public schools in Staunton, Virginia. Its instructions were attended by some four hundred and fifty persons, three hundred and sixty of whom were teachers of public and private schools in Virginia, North Carolina, and South Carolina. It had twelve instructors for daily lessons.

WISCONSIN.—The fall term of the public schools of Madison will commence this year on the 16th of September, instead of on the 6th, as heretofore. This arrangement is made so as to allow the State Fair to be patronized by teachers and pupils.

At the West Deper institute, an attendance of 62 is reported—good for that county.

Supt. T. C. Richmond, of Green county, opened an institute of seven weeks at Monticello, August 19. This is not on the state list. The necessary help is hired and the risk assumed by the local parties. Supt. Richmond will be in Darlington during the first two weeks, assisting at a state institute, and Prof. N. C. Twining will conduct the institute at Monticello.

The fall term of the State University will open Sept. 4.

H. D. Kinney takes the school at Wonewoc, John H. Boyle that at Reedsburg, L. D. Roberts at Stoughton, H. W. Denning at Neillsville, Henry J. Curtis at Juneau, Mrs. Ada Ray Cooke at Edgerton, Geo. F. Foster at New Lisbon, W. E. Todd at Lodi.

MICHIGAN.—The veteran Prof. Boyd, so long in charge of the Young Ladies' Seminary at Monroe, having resigned, the school will be re-opened Sept. 11, with Prof. J. R. Hinckley, of New York, as principal, and a full corps of assistants.

Serious trouble has arisen at Port Huron, from political differences in the Board of Education. The Common Council finally disbanded the old Board and appointed a new one. Great dissatisfaction still exists, however, and it is feared the results upon the city schools will not be favorable.

The nomination of Supt. Gower, of Saginaw City, to the State Superintendentcy, creating a vacancy at Saginaw, has been filled by the appointment of Supt. Thomas, who has been at Niles for the past seven years. His salary had recently been cut down, which put him upon inquiry for a new place. His departure is greatly regretted at Niles.

Other changes may be noted as follows: Supt. Gass, long of Jackson, east side, to Hastings; C. T. Bateman, long of Hudson, to Sturgis; Hutchinson, of Napoleon, to Laingsburg; Gifford, of Leslie, to Vermontville. E. G. Arnold goes to Oxford; G. W. Van Wormer, of Tuscola, appointed to Jonesville, declines; J. W. Ewing resumes at Ionia.

The residence of Supt. Owen, of Lapeer, was entered by housebreakers and robbed, a few days ago.

The last graduates from the Sturgis high school are exercised over a \$100 unpaid bill for graduating expenses.

Nellie Brown and Fannie Kelly bring suit for \$1,000 damages against the school directors of Ferrysburg for breach of contract.

Prof. A. G. Culver, of Quincy, has removed to Seward, Nebraska, there to serve as principal in one of the public schools.

Teachers' wages have been so much reduced in Niles that the school expenses next year will be \$1,700 less than last year.

A cataract has been removed from the eyes of Prof. Cornevin, of the Detroit high school, which will probably entirely restore his sight, almost wholly lost for some time past.

Several fine new school-houses are to be built in the state notwithstanding the pressure of the times. Jackson has just let a contract for a Central building, at \$25,000 to W. H. Myers, of Fort Wayne, Ind., and Ypsilanti another, to Detroit builders, for \$25,700, to replace the fine building burned a few months ago. Wayland, Allegan county, though but a small place, is to put up a \$20,000 house.

The changes of superintendents and principals, so far as announced, are hardly so numerous as usual. Supt. Bemiss, at Coldwater for some years, goes to Manistee. Principal Fall, squeezed out at Flint in a shabby way, becomes Professor of Natural Sciences in Albion College. Owosso has engaged Supt. E. H. Crowell, long of Stanton. W. S. Webster, late of the Fort Gratiot school, takes the principalship at Clarkston the coming year; Prof. C. M. Cady, of Oberlin, that at Royal Oak; and James Jordan, of Decatur, a recent graduate of the State Normal, that at Lawton. W. H. Bellows, son of Prof. Bellows, of the Normal, goes in at Saugatuck. Miss Shaw, of Chicago, a graduate of the high school there, and reported to be an accomplished scholar, takes charge of the ward school. Supt. Williams and Mr. G. C. Glover, resign at Sturgis, both going to Chicago to work for Clark and Maynard. Other personals are as follows: Hon. Ira Mayhew, of Detroit, formerly State Superintendent, was announced to deliver an oration on Business Colleges—their Work and Place in a System of Education, before a national convention of business-college teachers in the city of New York early in August. Prof. W. K. Kedzie, a graduate of our State Agricultural College in 1870, and subsequently Professor of Chemistry at Kansas Agricultural College, has been appointed to the same position at Oberlin.

Practical Hints and Exercises.

A LITTLE FALSE SYNTAX.

1. "We have no *corporeal* punishment here," said a schoolmaster. *Corporeal* is opposed to *spiritual*. Say, *corporal* punishment. *Corporeal* means having a body.

2. "He *rose* up and left the room;" leave out *up*, as it is absurd to say *rise down*. The Irishman who was *hoisted down* the coal pit did not observe this rule.

3. "*Set down* and rest yourself;" say *sit down*; *setting* is said of the sun in the west, but cannot be properly applied to a person taking a seat. "*Sit down*" is not improper, though "*rise up*" (as in No. 2) should never be used. *Sitting down* expresses the act of appropriating a chair, while *sitting up* means *sitting erect*. *Sitting up* also refers to watching during the night with the sick.

4. "This is a secret between *you and I*," say *you and me*. The construction requires the objective case in place of *I*, which is in the nominative.

It is in still better taste to say, "This is a secret with you and me."

5. "Let *you and I* take a walk;" say, Let *you and me* or, Let *us*. Who would think of saying, Let *I* go? The expression "Let *I* and *you*" is frequently heard, which contains the additional impropriety of putting the first person before the second.

6. "Thompson was there *among the rest*." This mode of expression, which is very common, literally declares an impossibility. The signification of "the rest" is, those *in addition* to Thompson, and of which Thompson formed *no part*; he could not therefore be among them. A more correct form would be, "Thompson was there *with the rest*."

7. "The *two first* cows are the fattest," said a farmer at an agricultural fair. He should have said, "the *first two*;" there can be only *one* that is *first*—the other must be necessarily the *second*.

8. "I prefer the *yolk* of an egg to the white;" the more common word is *yell*, with the *l* sounded; but if *yolk* is used it should be pronounced like *yoke*.

9. "He is quite as good as *me*;" say, as good as *I*. Also, instead of *as good as him*, say, as good as *he*. In both these instances *am* or *is* must be mentally supplied at the end of the phrase, to suggest the meaning; and the pronouns should, therefore, be in the nominative case.

10. "How do you like *these kind* of pears?" say, *these kinds*; a noun in the singular number will not allow its adjective to be in the plural.

11. *Benefited*; often spelled *benefitted*, but *incorrectly*.

12. "Who do you think I saw yesterday?" say, *Whom*.

13. The following equivocal notice is said to swing out on a sign-board somewhere in the western country: "SMITH & HUGGS—SELECT SCHOOL.—*Smith teaches the boys, and Huggs the girls.*" *Huggs* needs correction.—*Five Hundred Mistakes Corrected.*

MICHIGAN STATE INSTITUTE WORK.

WE present some more synopses of the lectures before the recent State Teachers' Institute of Michigan, as reported for the *Lansing Republican*:

READING—PROF. E. A. STRONG, OF GRAND RAPIDS.

He would define reading to be "apprehension of thought as derived from the written or printed page." There are two essential elements in reading: 1, reading matter, something to be apprehended; and 2, a reader, some one to apprehend. A hearer is not a necessary element. The object of reading is to gain knowledge, to learn new words, to apprehend new ideas, to secure a higher culture and broader views. There may be too much re-reading of the same matter in our schools, or there may be the extreme of having too much fresh reading matter.

He is in favor of reading complete things. Many of the selections in our readers are the closing parts of orations and addresses, and it is impossible that the child should at once enter into their spirit. Better, if possible, secure the entire article, and have it read through. The pupil reading should usually stand in front of and face the class, stand erect and inflate the lungs before commencing. New matter should occasionally be presented, in order that pupils may learn to read at sight. Occasionally pupils should be given selections to study, and then be required to read them from the platform with a higher degree of accuracy than is usually expected in class-work. Select articles of a high literary character should be committed to memory. A good teacher can make any reading exercise interesting, whether the matter be new or old. The teachers' essentials are: 1, a thorough knowledge of the article to be read and of the best methods of teaching reading; 2, experience; and 3, sympathy with the spirit of the article and with the efforts of the pupils.

TEXT-BOOK GRAMMAR—SUPT. W. H. PAYNE, OF ADRIAN.

The teacher should have a clear conception of the ends to be attained in giving formal instruction in grammar, and so far as possible should be impressed with a just notion of the value of this study. Some of the chief objects of grammatical study are: 1, a knowledge of the nature, peculiarities, and structure of language, because language is the means of conveying and expressing thought, and of preserving the results of intellectual progress. The origin and growth of language, the history and derivation of words, the idioms, the structure of verse, are all topics of special interest. 2, the art of classification; 3, the art of using language with accuracy and propriety. Some proprieties of speech have been sanctioned by custom, and an important purpose of grammatical study is to discover the principles which govern these proprieties. Whether grammatical knowledge be sought for its own sake, as mere knowledge, or whether it be sought for practical ends, as a means of perfecting speech, the method of study is essentially the same, and consists of the analysis of language into sentences, and then of the further analysis of sentences into the units of speech—words. The whole study of grammar is based on definition and classification, and the general method is classification by means of definition. The natural order is the analysis of speech into sentences, and then the analyses of sentences into words.

ART OF QUESTIONING—PRINCIPAL ESTABROOK, OF THE STATE NORMAL SCHOOL.

Questioning has two special objects in view: 1, instructing the pupils; and 2, testing their knowledge, methods of study, and their ability to express themselves clearly and accurately.

A continuous talk to pupils does not have that effect of arousing their minds to activity that is secured by wise questioning.

Questioning, with reference to the ends to be secured, may be: 1, preparatory, the design of which is to correct false ideas which they may have obtained of the subject or of the methods of studying it; to lead them to discriminate between the really important and valuable, and the comparatively unimportant or less valuable portions of the lesson; to aid in gaining and retaining the attention of the pupils; 2, for giving instruction; and 3, for examination.

Questions should not be ambiguous, or of such forms as to suggest the answers which you wish to secure. Do not ask leading questions.

Much work can be done, many results can be secured, by careful questioning, which are impossible to be obtained by direct instruction or by topical recitation.

Our work will not be estimated by the amount we teach pupils, but by the desire which we awaken in them to know more. Avoid the extremes of analysis and synthesis. The true course is intermediate.

SCHOOL DISCIPLINE—PRINCIPAL J. F. NICHOLS, OF DETROIT.

There are three essentials to success: 1, the teacher must himself know that which he is to teach; 2, he must have the faculty of telling clearly and well what he knows; and 3, he must be able to manage his school. The last is usually the most troublesome, especially for young teachers.

The following are some of the excellent suggestions to teachers given by Prof. Nichols: Govern yourselves; refrain from moroseness, peevishness, or scolding. Have a clear idea of what you are going to do. Teach pupils how to study, how to get out of the text-book what is there, and to put it into their own language. Do not be noisy; govern so far as possible by quiet signals. In hearing recitations be interested yourselves—be enthusiastic. Have no pet pupils. Govern without monitors. Do not send pupils for every little thing to the Principal, Superintendent, or Director. Have a programme, and adhere to it. Don't get into the habit of suspecting certain pupils of doing all the bad things in school. Do not allow pupils to report each other. Cultivate in pupils self-respect and self-government. Never attempt to ferret out mischief without being successful. Do not lower yourself to the level

of your pupils, but aim to draw them up to your level. Maintain a quiet, cheerful dignity. If you have under-teachers, give them due credit for their efforts, and let them know that you appreciate them.

ARITHMETIC—PROF. OLNEY, OF THE STATE UNIVERSITY.

He is emphatic in his opinion that there should not be two arithmetics—intellectual and written—used in the school, and even says that excessive intellectual arithmetical training is injurious and unfit for the proper study of the sound and more difficult problems of mathematics. The proper range of work in the institute does not include the difficult and complex questions in arithmetic. Ordinarily those things which teachers generally ask about should be excluded from institute instruction. Its province is with the more common and fundamental principles of notation, numeration, addition, subtraction, multiplication, division, and percentage. The question whether processes or principles should be taught first is an important one. Some would have the processes thoroughly learned before the principles are explained. Prof. Olney would teach the principles and bring in the processes as practice work in connection with and for the illustration of the principles. Two objects should be kept in view in teaching primary arithmetic; first to see that the pupil has an intelligent appreciation of the processes, and, second, to fix results in the memory.

TRAINING TO ATTENTION—PROF. PUTNAM, OF THE STATE NORMAL SCHOOL.

Attention is not a faculty, but a habit, and can be formed as other habits are formed. Teachers frequently ask too much of their pupils. The child's attention can not be directed for a very long time upon any subject. Attention cannot be obtained by asking for it or demanding it; not by fretting or scolding about it. The attention must be secured by exciting the child's curiosity, and then retained by giving him something to think about, something to do, by not at once fully satisfying his curiosity; by putting something into his mind, not by trying to drive out what is there. Allow the child to do something; his nature requires him to do something, and you must give him the opportunity for doing. Attention can be commanded by determining to have it; not by saying so to the pupils, but by determining to pursue such a course as shall secure and retain it. A teacher will accomplish much, in training pupils to give attention, by being a practical example and giving close attention to class work. Attention can be secured by having pupils feel that they are liable to be called on at any moment to reproduce the lesson of the day or any previous lesson.

HOW TO MANAGE HIM.

I WAS fairly puzzled. I had tried moral suasion, I had tried punishment, but the boy seemed incorrigible. He had been taken from a lawless private school and sent to me. His last teacher had expressed himself as glad to be rid of him, and he had evidently entered my school with the determination of having "a good time," which meant, in his opinion, getting as many boys into mischief, and annoying me as much as possible.

The boy was gentlemanly-looking, bright and apt; but "obedience" and "order" seemed to be terms which he habitually and systematically set at defiance. I think they make a mistake, who compare children in the hands of a teacher to blocks of marble or pliable wax. Few are the pupils who would bear out the analogy, and such are generally of the class that "die young." The majority of children of either sex, and of all ages, are endowed with powerful wills, and the ease or hardship of a teacher's lot depends much upon the bias of those wills. If it be in the direction of right, his work will be a delightful pastime, but even if it be toward evil, he will feel a certain enthusiasm springing up within him (if he is a true teacher) to prove himself able to cope with the evil and overcome it. It was thus with the case in hand. The weak teacher's reuige, suspension and expulsion, is possible, and I have no doubt that the reputation of the boy for mischief would, in the eyes of my patrons, have borne out the deed; but the remembrance of former victories, and the heartfelt desire to train this smart boy into a good and useful man, made me shrink more than usually from such an alternative. I walked away from the school in some perturbation. What course had I best pursue? The happy thought struck me, "Place confidence in him, put him to work for others, perhaps he will endeavor to deserve this trust." I caught at the idea, and that afternoon, having called my Fourth Grade to the blackboard, I said, "Brice, I have been some time trying to teach this grade how to do Long Division. Sometimes children catch such things quicker from an older child than from a teacher. You are quite apt at Arithmetic, will you come up here and try what you can do for them?" The boy's face flushed, but he came up with alacrity, and I never saw more patient, thorough work done than he went through for the next half-hour. I had no more trouble with Brice that afternoon, nor have I had a great deal since. As soon as I see him becoming restless, I call on him to help me with some of the lower grades, after which he will always return to his own task with renewed diligence. This method, doubtless, is old to many of you, but by some it may have been untried, and to such I submit it, hoping that they may meet with like success.—*Cor. Maryland Journal.*

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